

Date: Thursday, 6/14/2007 3:18:09 PM
 User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: X-TUBE MATERIAL
Job Number	: 32912		
Estimate Number	: 12448		
P.O. Number	: N/A	Part Number	: D6017115
This Issue	: 6/14/2007 S.O. No. : N/A	Drawing Number	: D6017 REV A
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: MA Type : PURCHASED PARTS	Drawing Revision	: A
Previous Run	: 27471	Material	: N/A
Written By	: <i>[Signature]</i>	Due Date	: 8/17/2007
Checked & Approved By	: <i>[Signature]</i> 07.06.14	Qty:	70 Um: Each
Comment	: Est Rev: A New Issue 06-06-09 JLM		

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description:

1.0

PG

PURCHASING



Comment: PURCHASING

Issue P/O: 3986

C207106115

a) Description: 4130 Seamless Steel Tube

b) 2.339"OD X2.00" ID X115" Long

c) Tolerance on all dimensions are as per Dwg D6017

d) Material: AISI 4130 (AMS 6371) Seamless tube

Material certification required

2.0

D6017115P

Crosstube Material



Comment: Qty.: 1.0000 Each(s)/Unit Total: 70.0000 Each(s)

Crosstube Material

3.0

PACKAGING

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure material certification is attached

4.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

5.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: *ENC*

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: D Date: 01/10/24
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 6/14/2007 3:18:09 PM

User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE MATERIAL

Job Number: 32912

Part Number: D6017115

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC21

FINAL INSPECTION/W/O RELEASE



(7d)

Comment: FINAL INSPECTION/W/O RELEASE

D571.0124

Job Completion



W071024

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

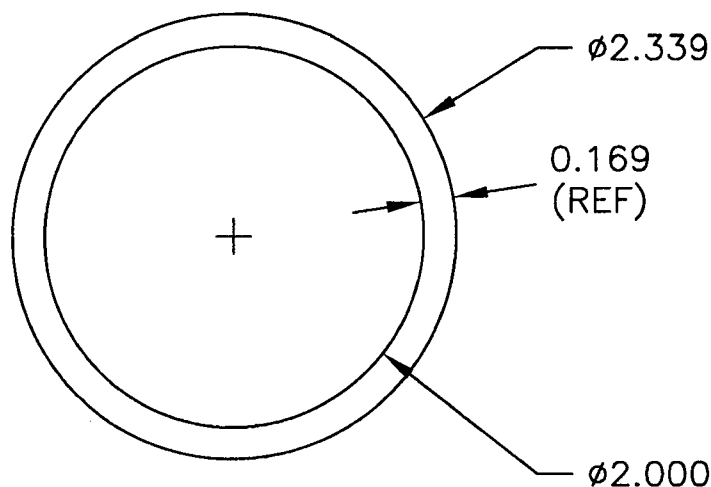
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN QP	DRAWN BY QP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D6017	REV. A SHEET 1 OF 1
DATE 06.06.30		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	06.06.30	NEW ISSUE	

SPECIFICATION CONTROL DRAWING



NOTES

- 1) D6017-XXX CROSSTUBE
 |
 LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 115" LONG TUBE: D6017-115

- 2) MATERIAL: AISI 4130 (AMS 6371) SEAMLESS STEEL TUBE
2.339 OD x 2.000 ID
ANNEALED
- 3) TOLERANCES ARE PER ASTM A519 AS FOLLOWS:
O.D.: +0.007/-0.000
I.D.: +0.000/-0.007
LENGTH: XXX +0.188/-0.000
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 32912

RELEASED

06.08.15 #

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UNITED STATES CUSTOMS SERVICE

NORTH AMERICAN FREE TRADE AGREEMENT
CERTIFICATE OF ORIGIN

1. EXPORTER NAME AND ADDRESS FACTORY STEEL & METAL SUPPLY 14020 OAKLAND AVE. DETROIT, MI 48203 TAX ID NUMBER: 38-126-8118	2. BLANKET PERIOD (DD/MM/YY) FROM: 07-20-07 TO: 07-19-08
3. PRODUCER'S NAME AND ADDRESS AVAILABLE UPON REQUEST TAX IDENTIFICATION NUMBER:	4. SOLD TO: DART AEROSPACE 1270 ABERDEEN ST HAWKENSURRY ONTARIO K6A 1K7

5. DESCRIPTION OF GOODS	6. HS TARIFF CLASSIFICATION NUMBER	7. PREFERENCE CRITERION	8. PRODUCER	9. NET COST	10. COUNTRY OF ORIGIN
4130 STEEL TUBES 70 pcs. 2.339 O.D. x 170 W x 115" 70 PCS. 2.399 O.D. x 160 W x 125"	7304.51 7304.51	B B	NO NO	NO NO	US US

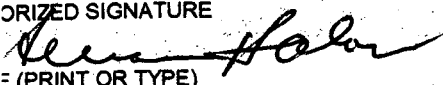
I CERTIFY THAT:

THE INFORMATION ON THIS DOCUMENT IS TRUE AND ACCURATE AND I ASSUME THE RESPONSIBILITY FOR PROVIDING SUCH REPRESENTATIONS. I UNDERSTAND THAT I AM LIABLE FOR ANY FALSE STATEMENTS OR MATERIAL OMISSIONS MADE ON OR IN CONNECTION WITH THE DOCUMENT;

I AGREE TO MAINTAIN, AND PRESENT UPON REQUEST, DOCUMENTATION NECESSARY TO SUPPORT THIS CERTIFICATE, AND TO INFORM, IN WRITING, ALL PERSONS TO WHOM THE CERTIFICATE WAS GIVEN OF ANY CHANGES THAT COULD AFFECT THE ACCURACY OR VALIDITY OF THIS CERTIFICATE

THE GOODS ORIGINATED IN THE TERRITORY OF ONE OR MORE OF THE PARTIES, AND COMPLY WITH THE ORIGIN REQUIREMENTS SPECIFIED FOR THOSE GOODS IN THE NORTH AMERICAN FREE TRADE AGREEMENT, AND UNLESS SPECIFICALLY EXEMPTED IN ARTICLE 411 OR ANNEX 401, THERE HAS BEEN NO FURTHER PRODUCTION OR ANY OTHER OPERATION OUTSIDE THE TERRITORIES OF THE PARTIES; AND

THIS CERTIFICATE CONSISTS OF 1 PAGES, INCLUDING ALL ATTACHEMENTS.

11a. AUTHORIZED SIGNATURE  11c. NAME (PRINT OR TYPE) JOSEPH BRICKER 12. DATE 07/20/2007	11b. FACTORY STEEL & METAL SUPPLY CO 11d. SALES 11f. TELEPHONE NUMBERS (VOICE) 313-683-8300 (FACSIMILE) 313-683-4833
---	--

1. VENDOR NAME AND ADDRESS FACTORY STEEL & METAL SUPPLY 14020 OAKLAND AVE. DETROIT, MI 48203		2. DATE OF DIRECT 7/20/2007		
4. CONSIGNEE NAME AND ADDRESS		3. PURCHASE ORDER p-00000-3986		
5. PURCHASER'S NAME AND ADDRESS (IF OTHER THAN CONSIGNEES) DART AEROSPACE 1270 ABERDEEN ST HAWKSBURY ONTARIO K8A 1K7				
6. COUNTRY OF ORIGINSHIPMENT HAWKSBURY		7. COUNTRY OF ORIGIN UNITED STATES		
8. TRANSPORTATION U.P.S.		9. CONDITIONS OF SALE AND TERMS OF PAYMENT NET 30 DAYS		
10. METHOD OF PAYMENT US FUNDS		11. NUMBER OF PIECES: 140 PCS.		
4130 STEEL TUBES COLD DRAWN SEAMLESS 2.339 O.D. x 170 Wall x 115" 2.299 O.D. x 160 W x 125" BOXING CHARGE		13. QUANTITY	14. UNIT PRICE	15. TOTAL
		70 pcs.	10.00 ft	6708.33
		70 pcs.	9.10 ft	6635.42
				920.00
16. IF ANY OF FIELDS 1 TO 8 ARE INCLUDED ON AN ATTACHED INVOICE, PLACE AN "X" IN THIS BOX: <input type="checkbox"/> INVOICE NUMBER		17. TARIFF NUMBER 7304.51		\$ 14,263.75
19. EXPORTER NAME AND ADDRESS IF OTHER THAN VENDOR		20. ORIGINATOR (NAME AND ADDRESS) JOSEPH BRICKER 14020 OAKLAND AVE DETROIT MI 48203		
21. REVENUE CANADA RULING IF APPLICABLE		22. IF FIELDS 23 AND 24 ARE NOT APPLICABLE, PLACE AN "X" IN THIS BOX: <input type="checkbox"/>		
23. IF INCLUDED IN FIELD 18, INDICATE AMOUNT A. TRANSPORTATION CHARGES, EXPENSES AND INSURANCE FROM THE PLACE OF DIRECT SHIPMENT TO CANADA B. COSTS FOR CONSTRUCTION, ERECTION AND ASSEMBLY INCURRED AFTER IMPORTATION TO CANADA C. EXPORT PACKAGING		24. IF INCLUDED IN FIELD 18, INDICATE AMOUNT A. TRANSPORTATION CHARGES, EXPENSES AND INSURANCE FROM THE PLACE OF DIRECT SHIPMENT TO CANADA B. COSTS FOR CONSTRUCTION, ERECTION AND ASSEMBLY INCURRED AFTER IMPORTATION TO CANADA C. EXPORT PACKAGING		

PACKING LIST

No. 608

PG 1 OF 1

FACTORY STEEL & METAL SUPPLY
14020 OAKLAND AVENUE
DETROIT, MI 48203

(313)883-6300 PHONE
(313)883-4883 FAX

SOLD TO

DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7

CUST ID
DA3336
JOB NAME

SALES ORDER #
452
ORDER DATE
07/20/2007

SHIP TO

DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7

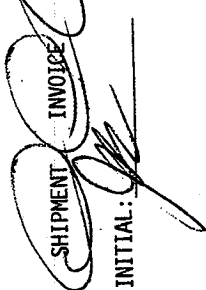
BUYER
CL. CLAVOIE
Tel (613) 632-3336
Fax (613) 632-4443

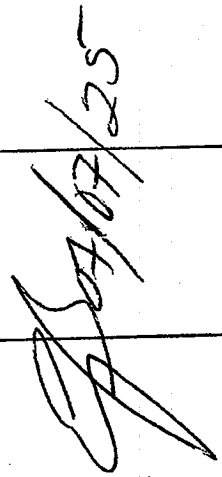
SALES REP
JOE BRICKER
PURCHASE ORDER #
P000003986

SHIP INST

TERMS
NET 30 DAYS

SHIP DATE
07/20/2007
SHIP VIA
TST OVERLAND
RESALE #
59-2958719
FOB:
DETROIT

LINE	PCS	QUANTITY	DESCRIPTION	WIDTH	LENGTH	WEIGHT	UNIT PRICE	TOTAL
1	70		RD-N.2339170 4130N CD SMLSS RD TUBE 2.339" OD X .170W (2.00ID) Our Tag # Heat # Pcs Total Ft 15065 70 670.833	115.000"		2.643.082		
2	70		RD-N.2299160 4130N CD SMLSS RD TUBE 2.299" OD X .160W (2.00 ID) Our Tag # Heat # Pcs Total Ft 15066 70 729.167	125.000"		2.668.751		
3	1		PACK BOXING CHARGES MTRS (CIRCLE) FAX SHIPMENT INVOICE ALL DATE: 7/24/07 INITIAL: 					

 7/27/25

TOTAL WT 5,311 LBS	RECEIVED BY - SIGNATURE	RECEIVED BY - PRINTED NAME	DATE RECEIVED	TOTAL
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TEST REPORT

SHIPMENT

001

6476

MICHIGAN SEAMLESS TUBE

SOUTH LYON, MICHIGAN 48178

ORDER NUMBER	CUSTOMER ORDER NUMBER	DATE	OFC	COM	DIWI	NET SLS	GR SLS	ACCOUNT NUMBER	US	1DR	PAK
029240	061907JOE	06/20/07	22	00	16	16	01	02598001FCO			

S
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T
O

FACTORY STEEL & METAL SUPPLY
14020 OAKLAND
DETROIT MI 48203

FACTORY STEEL & METAL SUPPLY SN
14020 OAKLAND AVENUE TR
DETROIT MI 48203 INV

ROUTING

OPEN TOP/FULLY TARPED/FOB SOUTH LYON MI

PPD TRUCK

ANALYSIS	SHAPE	PRODUCT	FC	ANNEAL	REQUESTED
4130	ROUND	COLD DRAWN		PER SPEC	07/13/07
SPECIFICATION		CMST	DESCRIPTION		PROMISE
SEAMLESS		AMS6371/A519	CD ALLOY AIRCRAFT		07/13/07

SPECIAL INSTRUCTIONS

60M PSI MIN YIELD, AIM 90 PSI, CERT TO A519-96, MILT-6736BN NOTE-2
AMS-6360L W/DECARB LEVELS TO AMS-6371J, AMS-T-6736AN, 4130H & AMS-
2301J. PRODUCE FROM 1-HEAT. MARK TO INCL GRADE, A519-96, MILT-6736BN
NOTE-2, AMS-T6736AN, AMS-6371J, AMS6360L & 4130H. MAT'L TO BE BOXED
OIL OD SURFACE CRITICAL. CIRCUMFERENTIAL GRIND MARKS UNACCEPTABLE

ITEM	QUANTITY	O.D.	I.D.	WALL	LENGTH	WT/FT	WEIGHT	
		2.339	2.000			3.938		08:57:20 07/11/07

ITM	BALE	--BALE--			
NUM	NUM	PCS	FTG	HEAT NO.	
1	1 2	40	383	00A053546	
1	2 2	30	287	00A053546	

	LENGTH	ITM	PART
		STATUS	NUMBER
CUT	9' 7.000"	COM	
CUT	9' 7.000"	COM	

CHEMICAL ANALYSIS												REMARKS
HEAT NO.	C	Mn	P	S	Si	Ni	Cr	Mo	Cu	Al		
00A053546	.280	.470	.014	.018	.240	.090	.860	.160	.240	.026	EF SDI USA	

HEAT NO.	ULT. STR. PSI	YIELD, PSI	% ELONG 2"	HARDNESS	HYDRO TEST PSI	ULTRA SONIC %	EDDY CURRENT	EXPANSION	
00A053546	122,831	109,399	18.8	BHN 241-248			OK		
					BEND	FLATTEN	FLARE	REV. FLATTEN	FLANGE

DECARB OK GRAIN SIZE 7
FREQ 0.02 SEV 0.03
MACROS S1, R1, C2
J1 J2 J3 J4 J5 J6 J7 J8 J9 J10
49 49 46 40 34 30 28 27 26 25
MELTED & MANUFACTURED IN USA

We hereby certify that the reported data a
correct according to Michigan Seamless Tub
tests and those of its suppliers.

8.2P8.F9 P



MICHIGAN
seamless tube

TEST REPORT

SHIPMENT

001

6475

MICHIGAN SEAMLESS TUBE

SOUTH LYON, MICHIGAN 48178

ORDER NUMBER	CUSTOMER ORDER NUMBER	DATE	OFC	COM	DIWI	NET SLS	GRSLS	ACCOUNT NUMBER	US	1DR	PA
029241	061907JOE	06/20/07	22	00	16	16	01	02598001FCO			

S
O
L
D
T
O

FACTORY STEEL & METAL SUPPLY
14020 OAKLAND

DETROIT

MI

48203

S
H
I
P
T
O

FACTORY STEEL & METAL SUPPLY SN
14020 OAKLAND AVENUE TR
DETROIT INV
MI 48203

ROUTING

OPEN TOP/FULLY TARPED/FOB SOUTH LYON MI

PPD TRUCK

ANALYSIS	SHAPE	PRODUCT	FC	ANNEAL	REQUESTED
4130	ROUND	COLD DRAWN		PER SPEC	07/13/07
SPECIFICATION		CMST	DESCRIPTION		PROMISE
SEAMLESS		AMS6371/A519	CD ALLOY AIRCRAFT		07/13/07

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2301J. PRODUCE FROM 1-HEAT. MARK TO INCL GRADE, A519-96, MILT-6736BN
NOTE-2, AMS-T6736AN, AMS-6371J, AMS6360L & 4130H. MAT'L TO BE BOXED
OIL OD SURFACE CRITICAL. CIRCUMFERENTIAL GRIND MARKS UNACCEPTABLE

ITEM	QUANTITY	O.D.	I.D.	WALL	LENGTH	WT/FT	WEIGHT	
		2.299	2.000			3.443		11:29:1 07/13/07

ITM BALE --BALE--
NUM NUM PCS FTG HEAT NO.
1 1 2 70 729 0000T2753

ITM PART
LENGTH STATUS NUMBER
CUT 10' 5.000" COM

0000T2753

HEAT NO.	C	Mn	P	S	Si	Ni	Cr	Mo	Cu	Al	REMARKS
0000T2753	.310	.580	.009	.020	.240	.110	1.020	.150	.200	.030	EF TIMKEN USA

0000T2753

HEAT NO.	ULT. STR. PSI	YIELD, PSI	% ELONG 2"	HARDNESS	HYDRO TEST PSI	ULTRA SONIC %	EDDY CURRENT	EXPANS	
0000T2753	112,010	90,659	25.0	BHN 229-235			OK		
					BEND	FLATTEN	FLARE	REV. FLATTEN	FLANG

DECARB OK GRAIN SIZE 7

FREQ 0.00 SEV 0.0

MACROS S1, R1, C2

J1 J2 J3 J4 J5 J6 J7 J8 J9 J10

53 52 51 50 45 42 39 36 34 33

MELTED & MANUFACTURED IN USA

We hereby certify that the reported data is correct according to Michigan Seamless Tube tests and those of its suppliers.